

Effective conservation planning, whether at the local or landscape level, will benefit from taking a more “fine-filtered” approach, considering the conservation needs of ecosystems more explicitly, particularly for ecosystems at high risk. Such an approach may be especially feasible for regions the size of the project area in this study, particularly when so much data are available on a wide range of species and communities.

Distinctive Features of the Current Study

In the conservation analysis we conducted on the southeastern Coastal Plain, we combined site-oriented and landscape-oriented approaches, integrating information about high quality natural areas with the broader picture of the region’s land cover classes provided by the NCGAP vegetation map. Construction of the vegetation map itself was collaborative. Community element occurrence records from the NHP database were used by NCGAP to assess the accuracy of their cover classes (see Analysis of Landscape Integrity).

One of our primary goals was to determine how our Significant Natural Heritage Areas fit into the overall landscape. We particularly wanted to determine whether important tracts of habitat link the SNHAs to one another or to other significant tracts of habitat not previously identified as sites. In assessing the significance of unsurveyed areas of habitat beyond the boundaries of the SNHAs, we used the predictive approach, but only to a degree. We inferred that connecting or closely neighboring areas of habitat would share species, particularly animals, that were recorded at least at somewhere within them. We made no such assumptions, however, for habitat areas lacking any ground-based species records, no matter how extensive and significant they appeared to be in the vegetation cover map. These areas were instead identified as high priorities for future ground surveys.

We corrected biases in our focus on rare species and in our lack of animal data in general by including both the museum data set on vertebrate species and records of macro-lepidoptera obtained from our faunal surveys of this group. Vertebrates, as discussed above, have been extensively used as indicators of landscape integrity. The lepidoptera are comparable in many ways in terms of their dispersal characteristics: some are quite sedentary, rarely moving beyond a patch of their larval host plants, while others are highly vagile, moving hundreds or even thousands of miles from their natal areas; most species lie in between these extremes.

This combination of site-specific and broad landscape perspectives is itself not unique. In developing a conservation plan covering the entire state of Florida, Cox, et al. (1994), also made use of existing information on the location of significant natural areas, vulnerable species, and protected reserves, along with information on the overall distribution of habitat types provided by a land cover map obtained through high elevation photography.

Whereas Cox, et al. took a primarily focal-species approach, discussing the system of protected lands and conservation priorities in terms of individual species – some included specifically as